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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,137	08/08/2001	Stephen Clark Purcell	TMC# BEL-001(U)	5864

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Pillsbury Winthrop, LLP
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EXAMINER

RAY, GOPAL C

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 01/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,137

Applicant(s)

PURCELL ET AL.

Examiner

Gopal C. Ray

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 2 is/are allowed.
- 6) ☒ Claim(s) 3,5-8,10 and 11 is/are rejected.
- 7) ☒ Claim(s) 4 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 6) ☐ Other: ____.

1. Claims 1-11 are presented for examination.
2. The drawings filed on 8/8/01 are approved by the USPTO draftsman. Direct any inquiries concerning drawing review by the USPTO draftsman to the Drawing Review Branch at (703) 305-8404.
3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it exceeds 150 words limit. Applicant should reduce the size of the abstract to 150 words. The words "means" and "said" should not be used in the amendment to the abstract.

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. Furthermore, all claims should be revised carefully to eliminate all grammatical errors and antecedent basis problems
5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

Art Unit: 2111

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 5-8, 10 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent 6,070,003 issued to Gove et al. in view of general skill of a worker in the art.

As per claim 3, the reference of Gove et al. teaches “a processor switch chip having a plurality of processors each connected to a processor crossbar” in Fig. 1, elements 100-103; “a memory switch chip having a plurality of memory controllers each connected to a memory crossbar and controlling a shared memory bank” in Fig. 1, element 10 and Fig. 64, element 3002 ; “wherein the memory crossbar is connected to the processor crossbar” in Fig. 1, element 20.

The reference of Gove et al. does not explicitly show “a separate memory crossbar connected to a processor crossbar”. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement “a separate memory crossbar connected to a processor crossbar” in a computer system such as applicant’s because the reference of Gove et al. shows a combined crossbar switch for both processors and memories and it has been generally recognized to be within the general skill of a worker in the art to make an integral structure separable as a matter of engineering choice. See Nerwin v. Erlichman, 168 USPQ 177, 179 (USPTO Bd. of Int. 1969).

As per claim 5, the reference of Gove et al. teaches “wherein each memory controller is connected to a memory chip having a shared memory bank” in Fig. 64, elements 10 and 3002.

As per claim 6, the added limitation of the claim is rejected for similar reasons as discussed in the rejection of claim 5.

As per claim 7, the reference of Gove et al. teaches "wherein the apparatus is used for the purposes of ray-tracing" in col. 26, lines 6-9.

As per claims 8 and 10, the claims recite methods which parallel apparatus claims 3 and 5 respectively. In teaching the construction and use of the device, US Patent 6,070,003 issued to Gove et al. in view of general skill of a worker in the art teaches corresponding methods.

As per claim 11, the added limitation of the claim is rejected for similar reasons as discussed in the rejection of claim 10.

7. Claims 1 and 2 are allowable over the prior art on record. Claims 4 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. If applicants are aware of any better prior art than those are cited, they are required to bring the prior art to the attention of the examiner.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is urged to consider the references. However, the references should be evaluated by what they suggest to one versed in the art, rather than by their specific disclosure. Furthermore, applicant is reminded of the duty to disclose as set forth in 37 CFR § 1.56.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gopal C. Ray whose telephone number is (703) 305-9647. The examiner can normally be reached on Monday - Friday from 8:00 AM - 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark Rinehart, can be reached on (703) 305-4815. The new fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to **[mark.rinehart@uspto.gov]**.

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC2100 receptionist whose telephone number is (703) 305-3900.

Gopal C. Ray
**GOPAL C. RAY
PRIMARY EXAMINER
GROUP 2100**